REMARKS/ARGUMENTS

Claims 1-10 were pending in the present application. By virtue of this response, claims 1-10 have been cancelled, no claims have been amended, and new claims 11-20 have been added. Accordingly, claims 11-20 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added.

Concerning the Drawings

The attached drawings include adding "PRIOR ART" caption to Figures 1 through 5. These sheets, which include Figure 1 through 5, replace the original sheets.

Rejection under 35 USC §112 paragraph 1

Claims 1-10 are rejected as allegedly failing to comply with the enablement requirement.

In response, the Applicant has cancelled claims 1-10 and substituted claims 11-20. Regarding enablement of claims 11-20, the Examiner is directed to description at pages 15-16, which teaches how candidate positions for cores and deltas outside the fingerprint region may be found. In particular, page 15 teaches that equations 6 and 7 may be used for identifying candidate ("temporary") positions for cores and deltas outside the fingerprint region. As shown in equation 6, each candidate position for a core or a delta is represented by the variable z_k. After z_k is determined for each core and delta outside the fingerprint region, each z_k variable may be used in relevant formulas (e.g., formula 4) without distinguishing between whether that z_k was obtained from a core or a delta not within the fingerprint region or from a core or a delta within the fingerprint region.

Given that page 14 discusses that formula 4 is the ridge orientation model ($O_m(Z)$), there is thus enabling description for how positions of cores and deltas outside the fingerprint region may be used as initial parameters for the ridge orientation model. Description for how positions of

core and delta outside the fingerprint region may be used as initial parameters for the ridge orientation model may additionally be found in cancelled claims 7 and 9 and new claims 17 and 19. Claim 7 was directed (and claim 17 is directed) to calculating z_k for core and/or delta outside the fingerprint region and claim 9 was directed (and claim 20 is directed) to the ridge orientation model making use of z_k (regardless of origin).

Rejection under 35 USC §112 paragraph 2

Claims 1-10 are rejected as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response, Applicant has cancelled claims 1-10. New claim 11 recites "deciding at least one final position of the at least one core or delta in the fingerprint region from one or more of the parameters of the ridge orientation function." This revision cures the antecedent basis problem identified by the Examiner, but does not narrow the scope of claim 11 compared with cancelled claim 1 because core and delta positions are still decided based on parameters of the ridge orientation function. Support for calling such decided positions "final" may be found at page 17, paragraph 59 of the description.

Rejections under 35 USC §103

Claims 1, 4, 5, 9, 10 are rejected as allegedly being unpatentable over the combination of the article entitled "A Nonlinear Orientation Model for Global Description of Fingerprints" by Vizcaya et al. ("Vizcaya") and Bolle et al., U.S. Patent No. 6,005,963 ("Bolle").

In response, applicant has cancelled claims 1-10 and added claims 11-20. Claims 11-20 have not been narrowed to distinguish Vizcaya and Bolle, but rather have been reworded to clarify aspects of the claims. In particular, claim 1 recited, "calculating a ridge orientation function by calculating parameters with a minimum error between ridge orientation values of the ridge orientation model and ridge orientation values of regions with quality higher than a threshold." Claim 11 recites, "calculating parameters of a ridge orientation function by minimizing errors

between ridge orientation values of the ridge orientation model and ridge orientation values of fingerprint regions with quality higher than the quality threshold." (quality threshold was defined above) While Vizcaya may teach error minimization between ridge orientation values of an orientation model and a fingerprint region, neither Vizcaya nor Bolle appears to teach distinguishing fingerprint regions based on quality for such an error minimization process. Accordingly, claim 11 is patentable over Vizcaya and Bolle individually or in any hypothetical combination. Claims 12-20 are each dependent from claim 11. Accordingly, claims 12-20 are also patentable over Vizcaya and Bolle individually or in any hypothetical combination.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 404302000700. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: February 10, 2005

Respectfully submitted,

By _____

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In the drawings

The attached drawings include adding "PRIOR ART" caption to Figures 1 through 5. These sheets, which include Figure 1 through 5, replace the original sheets.